

AMENDMENTS TO THE CLAIMS

Claims 1-36 (Canceled)

Claim 37 (New) A method of growing a single crystal comprising:
bringing a seed crystal into contact with a raw material melt which is heated and melted within a crucible by a resistance heating heater and growing a single crystal; and
rotating the crucible without rotating a blade member having a screw form in the crucible in the raw material melt during said growing, the blade member being located at a position corresponding to the center of rotation of the crucible and adjacent to the inside bottom of the crucible, so as to stir the raw material melt in the crucible;
wherein said growing a single crystal includes slowly cooling the raw material melt with which the seed crystal makes contact below a liquid level of the raw material melt to precipitate the single crystal on the surface of the seed crystal such that a difference in temperature of the raw material melt between different positions along an extent from the liquid level to a depth of 10cm is in a range of -0.5° to 0°C .

Claim 38 (New) The method of claim 37, wherein the seed crystal is rotated during said rotating the crucible.

Claim 39 (New) The method of claim 38, wherein said growing comprises growing a single crystal of an oxide.

Claim 40 (New) The method of claim 39, said growing a single crystal of an oxide comprises growing a single crystal of a borate type oxide.

Claim 41 (New) The method of claim 40, wherein the borate type oxide is $\text{CsLiB}_3\text{O}_{10}$ or an oxide obtained by partially substituting at least one of Cs and Li of $\text{CsLiB}_3\text{O}_{10}$ with at least one type among other alkali metal elements and alkali earth metal elements.

Claim 42 (New) The method of claim 41, wherein the oxide is doped with at least one of Al and Ga elements.

Claim 43 (New) The method of claim 40, wherein the borate type oxide is represented by $Gd_xY_{1-x}Ca_4O(BO_3)_3$ ($0 < x < 1$) and said growing comprises a pulling method.

Claim 44 (New) The method of claim 39, wherein the single crystal of an oxide is $LiNbO_3$, $LiTaO_3$, a high-temperature superconductive oxide material or a heat-electricity-conversion oxide material.

Claim 45 (New) The method of claim 37, wherein said growing comprises growing a single crystal of an oxide.

Claim 46 (New) The method of claim 45, said growing a single crystal of an oxide comprises growing a single crystal of a borate type oxide.

Claim 47 (New) The method of claim 46, wherein the borate type oxide is $CsLiB_3O_{10}$ or an oxide obtained by partially substituting at least one of Cs and Li of $CsLiB_3O_{10}$ with at least one type among other alkali metal elements and alkali earth metal elements.

Claim 48 (New) The method of claim 47, wherein the oxide is doped with at least one of Al and Ga elements.

Claim 49 (New) The method of claim 46, wherein the borate type oxide is represented by $Gd_xY_{1-x}Ca_4O(BO_3)_3$ ($0 < x < 1$) and said growing comprises a pulling method.

Claim 50 (New) The method of claim 45, wherein the single crystal of an oxide is LiNbO_3 , LiTaO_3 , a high-temperature superconductive oxide material or a heat-electricity-conversion oxide material.

Claim 51 (New) The method of claim 37, wherein said slowly cooling comprises cooling the raw material melt with a temperature drop rate of $0.1^\circ\text{C}/\text{day}$.

Claim 52 (New) A growing apparatus for growing a single crystal by bringing a seed crystal into contact with a heated and melted raw material melt, comprising:

a rotatable crucible for holding the raw material melt therein;

a resistance heating heater to heat and melt the raw material melt;

a blade member, having a screw form, in the crucible for stirring the raw material melt in the crucible during growing of the single crystal, the blade member being located at a position corresponding to the center of rotation of the crucible and adjacent to the inside bottom of the crucible;

a rotating device for rotating the crucible; and

a cooling mechanism operable to cool the raw material melt with which the seed crystal makes contact below a liquid level of the raw material melt and with a temperature drop rate of $0.1^\circ\text{C}/\text{day}$.

Claim 53(New) The growing apparatus of claim 52, and further comprising a mechanism for rotating the seed crystal.

Claim 54 (New) The growing apparatus of claim 52, wherein said rotating device and said stirring member are arranged such that said rotating device can rotate said crucible without rotating said stirring member.

Claim 55 (New) A growing apparatus for growing a single crystal by bringing a seed crystal into contact with a heated and melted raw material melt, comprising:

a rotatable crucible for holding the raw material melt therein;

a resistance heating heater to heat and melt the raw material melt;

a blade member, having a screw form, in the crucible for stirring the raw material melt in the crucible during growing of the single crystal, the blade member being located at a position corresponding to the center of rotation of the crucible and adjacent to the inside bottom of the crucible; and

a rotating device for rotating the crucible, wherein said rotating device and said blade member are arranged such that said rotating device can rotate said crucible without rotating said blade member.